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In-group favouritism and out-group discrimination in naturally occurring groups

KLAUS ABBINK and DONNA HARRIS¹

We study in-group favouritism and out-group discrimination in a novel multiplayer dictator game in a naturally occurring setting. An allocator divides a large sum of money among three groups of around 20 recipients each and to Self. The groups are supporters of two rival political movements in Thailand and politically neutral subjects. The non-rival out-group as a reference point allows us to measure in-group favouritism and out-group discrimination. A treatment with artificial groups serves as a control. We find both in-group favouritism and out-group discrimination among the naturally occurring groups. In artificial groups, favouritism is observed, but not discrimination. Our results suggest that the two behaviours are not driven by the same motive, and only when groups are in conflict out-group discrimination is likely to occur.

Introduction

Group living represents the fundamental survival strategy that characterises the human species (Brewer (1999), Everett et al. (2015)). When people from different groups interact, in-group favouritism and/or out-group discrimination often result. Evidence of this phenomenon is vast and comes from multiple experiments by different researchers around the world, using different types of social identities (minimal and natural) and different populations (for an extensive review see Everett et al. (2015)). Even young children aged between 3 and 7 years already exhibit greater generosity towards in-group members than out-group members across a series of economic games (Fehr et al. (2008)).² Nevertheless, it is not always clear whether differential treatment of others on the grounds of group identity is an expression of a preference for the one's own group or hostility against the out-group.

In this paper, we use a lab-in-the-field experiment to test whether intergroup bias is triggered by the in-group members' willingness to treat their own group superior than others (in-group favouritism) or from their willingness to treat the rival group worse than others (out-group discrimination). We distinguish two types of 'others' in our study: the rival others and the non-rival (or neutral) others. Whilst in-group favouritism maybe straightforward to observe i.e. the in-group members are treated better than both types of the out-group, out-group discrimination or hostility towards the out-group maybe dependent on the 'type' of the out-group. In other words, our conjecture is that there is heterogeneity in how the out-groups are perceived: a rival out-group is perceived as hostile and as constituting a threat to the in-group and thus, members of a rival group are treated worse than those from a non-rival out-group.

Our research is motivated by a long-standing debate in social psychology literature about whether in-group favouritism necessarily requires hostility toward out-group. On the one hand, Allport (1954, p.42) argued that the in-groups are psychologically primary and hostility toward out-groups helps strengthen our sense of belonging, but it is not required. On the other hand, Sumner (1906) believed that positive sentiments toward

¹ Abbink: Monash University, Department of Economics, Wellington Road, Clayton VIC 3800, Australia. klaus.abbink@monash.edu. Harris: Department of Economics, University of Oxford, Manor Road, Oxford, OX1 3UQ, United Kingdom. Donhatai.Harris@economics.ox.ac.uk. Financial support from CBESS, University of East Anglia, is gratefully acknowledged.

² Our focus is on in-group favouritism and out-group discrimination behaviours because such behaviours have a number of important economic and social implications. These include distorting access to jobs and hiring practices (DiTomaso (2015)) which can cause a mismatch between productivity and resources, reducing economic efficiency, worsening income inequality and social segregation. In-group favouritism has been related to racial profiling by police and the justice system (Hurwitz and Peffley (2005)) and can also be considered as a form of corruption when public officials abuse their power in order to distribute positions and/or resources to their own groups at the expense of the public at large (Fatton (1990), Englebert (2000), Kaufmann (2004), Kaufmann et al. (2006), Sun (1999)).

the in-group were directly correlated with contempt, hatred, and hostility toward out-groups. Whilst some contemporary research on intergroup relations has implicitly assumed that in-group favouritism and out-group discrimination are reciprocally related (Sherif (1966), Tajfel et al. (1971), Tajfel and Turner (1986)), others have shown that variations in in-group positivity and negative bias toward out-groups are not always correlated (Brewer (1979), (1999), Halevy, Bornstein, and Sagiv (2008)), especially when the allocation decisions involve negative outcomes or costs (Mummendey et al. (1998), Weisel and Bohm (2015)). Halevy et al., for example, reported that pre-game communication with in-group members increased intra-group cooperation but did not affect inter-group competition, suggesting that participants were motivated to help the in-group rather than harm the out-group. de Dreu (2010) similarly found that individual differences in pro-social orientation determined self-sacrificing for the benefit of the in-group, but not penalizing of out-group members.

Our study contributes to this literature by examining a setting in which resource allocation is a zero-sum game i.e. generosity to towards one's own group directly harms the out-group by reduces the resource allocated to them. Similar to previous studies, there is also a trade-off between self-interest and in-group favouritism. One can act pro-socially towards the in-group by self-sacrificing. However, by doing so the out-group is penalized (negative externality imposed on the out-group). In order to clearly distinguish these three types of behaviour, we chose an environment in which not only in-group and (rival) out-group were clearly defined, but also individuals who belonged to neither the in-group nor the (rival) out-group were also present. These individuals provided a second type of out-group which was non-rival. We found such an environment in Thailand in 2010 at the height of the political crisis between the Red Shirts (also known as 'the United Front of Democracy Against Dictatorship (UDD)') and the Yellow Shirts (or 'the People's Alliance for Democracy (PAD)'). The strong polarisation between the two politically rival groups meant that for supporters of each movement there was an unambiguous in-group and an unambiguous rival out-group. But there were also many individuals who were not attached to any of the two camps, to whom we refer to as 'non-rival out-groups'. The non-rival out-group constitutes a natural benchmark against which we can test the motivations of in-group favouritism and out-group discrimination.

We look at favouritism and discrimination in its material expression, and therefore conduct a fully incentivised economics experiment. We designed a multi-recipient dictator game, in which an allocator was asked to divide a large sum of money between the in-group, the rival out-group, the non-rival out-group, and Self. The in-group and the out-groups consisted of a large number of people (20 people). We conducted the experiment at two Bangkok universities, Chulalongkorn and Thammasat Universities where students were very active politically and regularly participated in protests and demonstrations in support of their political groups. Our main treatment utilised these naturally occurred conflicting political ideology groups to create salient group identities, but we also have a control treatment in which subjects were simply labelled as groups A and B, and the neutral group was not labelled. The reason to have the minimal group, as a control treatment is to check whether the behaviours observed in the natural group treatment was merely due to the labelling effect.³ We are also interested in how inter-group behaviours and self-interest preference interact by examining whether an individual is more or less selfish in the presence of inter-group conflict.

There have been a number of studies which have used dictator games to study in-group favouritism behaviour (Yamagishi and Mifune (2008), Güth et al. (2009), Ockenfels and Werner (2014), Le Coq et al. (2015), Durrheim et al. (2016), Grimm et al. (2017)).⁴ These studies either create group identities in a laboratory

³ Social psychology studies often used artificially created groups based on some basic tasks - known as 'minimal group paradigm' (Tajfel (1971)) to study inter-group behaviour and found that subjects did treat the in-group more favourably than the out-group. Some economic experiments have also applied this method (Charness et al. (2007), Chen and Li (2009)) but not all have found the same effect when the decisions are incentivised.

⁴ Some of the earlier economic studies have compared other-regarding behaviour in naturally occurring and artificial groups using public good games (Goette et al. (2006), Croson et al. (2008), Norton and Isaac (2013)) and trust games (Fershtman and Gneezy (2001), Buchan et al. (2006), Falk and Zehnder (2013), Banuri et al. (2011)). The latter studies find evidence for differential treatment behaviour depending on the identity of the partner with

setting or use non-rival groups such as students from different universities or different departments within the same university. Closely related to our study is the paper by Grimm, Utikal, and Valmasoni (2017) in which the authors investigate how beliefs associated with the in-group and multiple out-groups drive in-group favouritism and out-group discrimination. The main finding is that subjects in their study (students from different departments within the same university) the degree of discrimination varies among different out-groups. In particular, a dictator tends to be relatively more generous toward a specific out-group when she believes that dictators belonging to that out-group were generous towards members of her in-group.

In contrast to this literature, we use naturally occurring and strongly antagonistic groups. The Red-Yellow conflict is an interesting case study of in-group favouritism and out-group discrimination because the two groups have based their movements on accusations of the rival group of these behaviours. The well-educated Yellow Shirts who mostly live in Bangkok accused the exiled former Prime Minister Thaksin Shinawattra and his cronies of abusing their power and breaking the rules of law to give favours to their friends and families at the expense of the public. On the other hand, the Red Shirts - fierce supporters of Thaksin - accused the royalist Bangkokians of discriminating against the rural but majority population. In Appendix 1, we provide a brief background of the conflict.⁵ In addition, we are interested in the extent to which the number of individuals within each group or group size as well as the stake size (the amount of money to be distributed) affect in-group favouritism and out-group discrimination. In our experiment, groups consist of around 20 people and the amount of money to be distributed by the dictator is almost three times the average monthly salary at the time of the experiment.

Our main findings are firstly that both Red and Yellow groups treated the in-group more favourable than outsiders and the rival out-group was more discriminated against than the non-rival out-group. Both Red and Yellow subjects allocated significantly less amount of money to the opponent group compared to the neutrals. Secondly, the majority of the subjects across all groups (Red, Yellow, and neutrals) were also quite selfish, despite knowing that their decision (to keep most or all of the money) would significantly impact many others. Thirdly, in the artificial group treatment, in which subjects were simply labelled as 'A' or 'B', we observed in-group favouritism but not out-group discrimination. Similar to the natural groups treatment, we constructed a reference group whose label was 'individuals who do not belong to either A or B'. The weaker effects observed in our artificial groups treatment confirm that the strong results in the natural groups treatment was not due to labelling alone. Finally, we find that the motivations for in-group favouritism and out-group discrimination are different. It appears that in-group favouritism is more related to the closeness and the important of group membership, whilst out-group discrimination is driven by the distance between Self and the out-group members.

The paper is organised as follow. The next two sections describe the experimental design and procedures. Section 4 reports the main results and section 5 concludes.

2. The experimental design

Around three months before carrying out the experiment, we first conducted a pre-experimental survey at Chulalongkorn and Thammasat Universities to identify supporters of the Yellow Shirts and the Red Shirts and those who identified with neither group (the total number of respondents was 2,127). We then called to

whom a subject is matched, which can be interpreted as favouritism or discrimination. However, in trust games, a preference to favour the own group is always interlinked with expectations about the partner's behaviour (reciprocity or performance), which our multi-recipient dictator game approach can disentangle since the receivers are always passive.

⁵ It is worth noting that objective here is not to analyse the causes or the consequences of the conflict, but to offer an insight into the extent to which the members of these naturally conflicting groups behave when it comes to in-group favouritism and out-group discrimination and with a large amount of money at stake.

invite the survey respondents to participate in our multi-recipient dictator game and of which, 466 subjects (22%) participated (152 Yellow-Shirts supporters, 151 Red-Shirts supports, and 163 who supported neither.

The set-up of the multi-recipient dictator game is as follow. An allocator decides how to divide a large sum of money (15,000 Baht, approx. \$500 at the time of the experiment) among the three groups of players (Yellow Shirts, Red Shirts, and those who support neither), and themselves. In our setting, we operationally define in-group favouritism as the difference between an allocation to the in-group and that to the neutral out-group; and out-group discrimination as the difference between an allocation to the rival group (the political opponent) and that to the neutral out-group. The rivalry nature of the political opponent allows us to examine the intensity of discrimination towards different types of out-group which enables us to test the motivation of the allocator's behaviour. Our study is different from that by Grimm et al. (2017) in that their multiple out-groups are non-rival. They come different departments within the same university and thus, one could argue that they ultimately belong to the same broader 'group identity'. In our case, we are interested in groups which are already in conflict and the extent to which such conflict exacerbates in-group favouritism and out-group discrimination.

In addition, in our experiments groups are large (by the standard of laboratory experiments). We do so to emphasise the dictator/allocator's responsibility for others, be it the own camp, other camp, or the population as a whole. The aim is to mimic a situation in which a politician or a public servant has to decide how to allocate the government's budget, which will ultimately affect large number of people from different groups. Each group consists of approximately 20 subjects. We deliberately keep the exact number vague. Since in our experiment one of the subjects is chosen at random as the dictator/allocator *after* the decisions are made by all subjects and thus, it is not possible to know in advance which group the allocator would come from. The allocator's recipient group has inevitably one fewer member. If one group consists of exactly 19 subjects and the other two of exactly 20, this could lead some subjects to develop fairness norms that incorporate this inequality in group sizes, however minor. This becomes less salient if the number of members in each group is only approximately known.

We maintain an important feature of the original dictator game, which is the allocation to oneself. Subjects are free to allocate any amount to themselves, even the entire sum. We keep this feature of the traditional dictator game so that we are able to detect differences in selfishness across different groups and examine how selfish preference interacts with in-group favouritism and out-group discrimination. This feature also helps reduce a bias towards allocation to the in-group because if subjects want to shift money to themselves, they could easily do so by increasing the share for Self. The gain from the allocation to Self is much larger than the small share from the in-group.

As a control group, we conduct sessions in which we do not label the groups as red, yellow and neutrals. In this treatment, the groups are called "group A" (Yellow-Shirts supporters), "group B" (Red-Shirts supporters) and, to keep the parallelism with the natural-group treatment, "individuals who do not belong to either group A or group B" (people who state that they do not identify with either groups). Note that these labels are entirely artificial. There is no other ground on which an allocator is connected to any of the groups than the label that was arbitrarily attached to him or her. Thus, our group formation procedure is even weaker than the traditional minimal-group paradigm (Tajfel (1971)), in which bonds between subjects are created through mutual preferences (such as choosing preferred paintings), pre-play communication or other forms of interaction.

3. Experimental Procedures

We conducted the experiment at two Bangkok universities, Chulalongkorn and Thammasat. The experiment took place during a relatively calm period in the Thai political conflict (November 2010). Subjects were recruited three months in advance of the experiment as mentioned above. They registered their availability to take part in an experiment. At that time, they filled in a survey questionnaire in which we asked for a number of personal characteristics, among them their political sympathy for one of the two movements (See

Appendix 2). Shortly before the experiment we rang subjects to invite them to one of the sessions, where we kept track to have a balanced number of approximately 20 subjects in each group.

In the sessions, subjects were first seated in a large classroom. One of the experimenters read the instructions aloud (in Thai). After all questions were answered, subjects were called *one by one* to make their decisions in ballot booths that we had set up in the corridor outside the classroom. They were asked to fold their decision sheet and place it in a ballot urn, before re-entering the classroom through a separate door. After all decisions were collected, we randomly drew one that would determine the final payoff allocation. Because subjects made their decisions in private in a ballot booth, visual separation between them in the classroom was not needed, but we made sure that there was no communication between subjects. We prepared an envelope for each subject in which we placed the subject's payoff in cash, including a 70 Baht show-up fee (around \$2). When leaving the session, the subjects collected their envelopes from the experimenters individually in private. The lowest a participant could earn was the 70 Baht show-up fee if his or her group had not been allocated any money, the highest was 15,070 Baht if a chosen allocator gave all the money to him/herself plus the show-up fee. At the time of the experiment, the exchange rate to other major currencies was US-\$3.01, €2.02, ¥268 and CNY20.6 for 100 Baht.

3. Results

3.1. In-group favouritism and Out-group discrimination

Figure 1 shows the average shares members of the three naturally occurring groups allocated to the groups and to themselves. The figure shows clear evidence for in-group favouritism. All allocators regardless of their group gave substantially more to their own group members than the out-groups. The neutrals who supported neither the Red nor the Yellow group also gave more to the other neutrals. Interestingly, the neutral allocators gave very similar amounts to the Reds (9%) and the Yellows (11%). It seems that they did not distinguish significantly between the two camps.

In Figure 2, we focus on in-group favouritism and show the frequency (number) of subjects who allocated more to the in-group than to the neutrals ("own") – our definition of in-group favouritism, those who allocated an equal amount to the in-group and the neutrals ("none") and those who allocated *less* to the in-group than the neutrals ("other"). Favouritism among the Red and the Yellow subjects is evident: In both groups, a large number of subjects (36 out of 64 subjects or 56% for the Red; 48 out of 73 or 66% for the Yellow) gave more to their own group compared to the neutrals, but very few showed the opposite pattern ("other") i.e. favouring the out-group. The binomial test rejects the null hypothesis of the likelihood that the in-group and the neutrals are equally treated at a one-sided $p < 0.00001$ for both Red and Yellow groups. Since the neutrals are used as the benchmark group, they are not included in Figure 2.

Figure 3 shows the incidence of out-group discrimination amongst the Yellow and the Red groups. Similar to Figure 2, it shows the frequency (number) of subjects who allocated less ("other"), equal ("none") or more ("own") to the *out-group* compared to the neutrals. For both the Reds and the Yellows, we see a clear discrimination against the rival out-group. About half of the subjects (29 out of 64 or 45% for the Reds and 38 out of 73 or 52% for the Yellows), allocated less to the group of the political opponent than to the neutrals, but very few showed the opposite pattern (discrimination against one's own group or "own"). This bias is highly statistically significant using binomial test ($p < 0.00001$) - rejects the null hypothesis of out-group and neutrals being equally treated. There are quite a number of subjects who did not discriminate in both groups, however (31 for the Red and 30 for the Yellow).

Allocation decisions (average percentage of the pie)

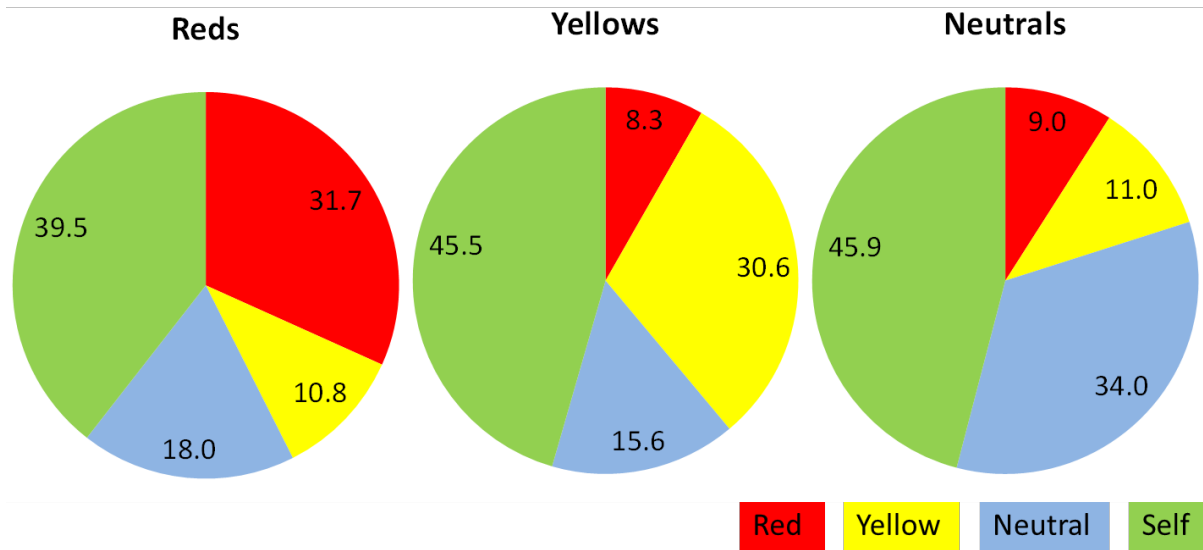


Figure 1: Allocation Decisions by Natural Groups (% of total pie)

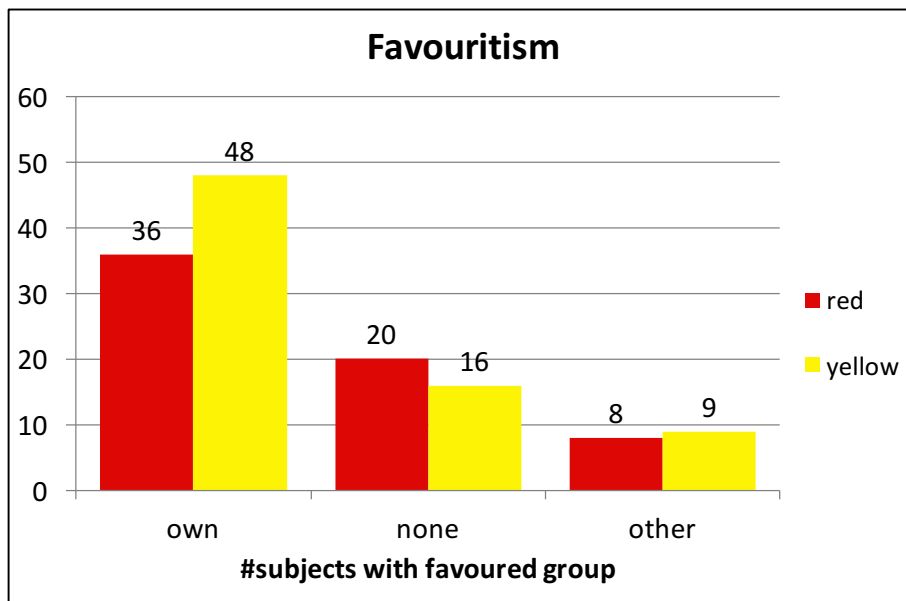


Figure 2: In-group favouritism – Number of subjects allocating more (“own”), equal (“none”), and less (“other”) to the in-group compared to the neutrals

We do not find clear evidence for different behaviours across the groups in terms of either favouritism or discrimination. Figures 2 and 3 appear to suggest more favouritism and more discrimination among the Yellows, while the Reds seem to discriminate less than the Yellows. Fisher’s exact test, applied to those figures (in-group favouritism and out-group discrimination) as opposed to the number of subjects who do not favour (or discriminate), rejects the null hypothesis (that the Yellow and the Red subjects exhibit similar bias) at a weak significance (one-sided $p=0.098$ for favouritism and $p=0.071$ for discrimination).

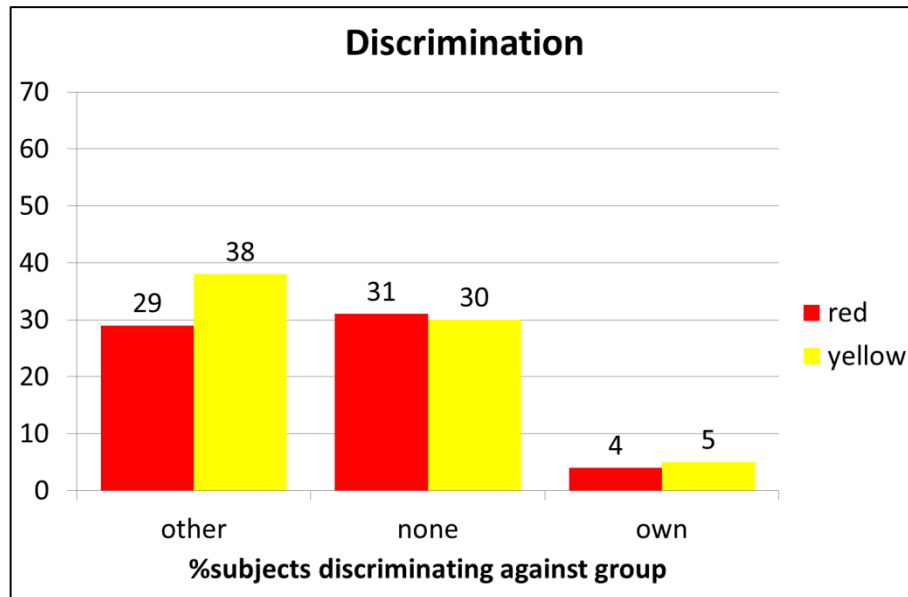


Figure 3: Out-group Discrimination– Number of subjects allocating less (“other”), equal (“none”), and more (“own”) to the out-group compared to the neutrals

If we take into account the *amounts* that subjects gave less to the opposite group than to the neutrals, then any statistical significance vanishes. Fisher’s two-sample randomisation test applied to the individual differences in allocated amounts does not detect any statistical significance ($p=0.349$).

3.2. Artificial groups

Our experiment is designed to identify attitudes towards in-group and out-group members in naturally occurring groups. It is, of course, possible that the differential treatment that we observe does not reflect such attitudes, but is just an artefact that stems from the experimenter labelling subjects as belonging to a group (experimenter’s demand effect). Our second treatment allows us to identify whether and to what extent this is the case. In this condition, the allocation task is the same, but the groups are now labelled “group A”, “group B” and “individuals who do not belong to group A or B”.

Figure 4 shows the average shares members of the artificial groups allocated to the groups and to themselves. We can observe that participants subjected the groups to differential treatment even if groups are completely meaningless, nothing more than a label the experimenter has attached to the subject. Hence, we cannot rule out that a small part of the favouritism we observe among the natural groups is due to mere labelling. However, the effects are much smaller and largely restricted to favouring the in-group slightly.

Allocation decisions (average percentage of the pie)

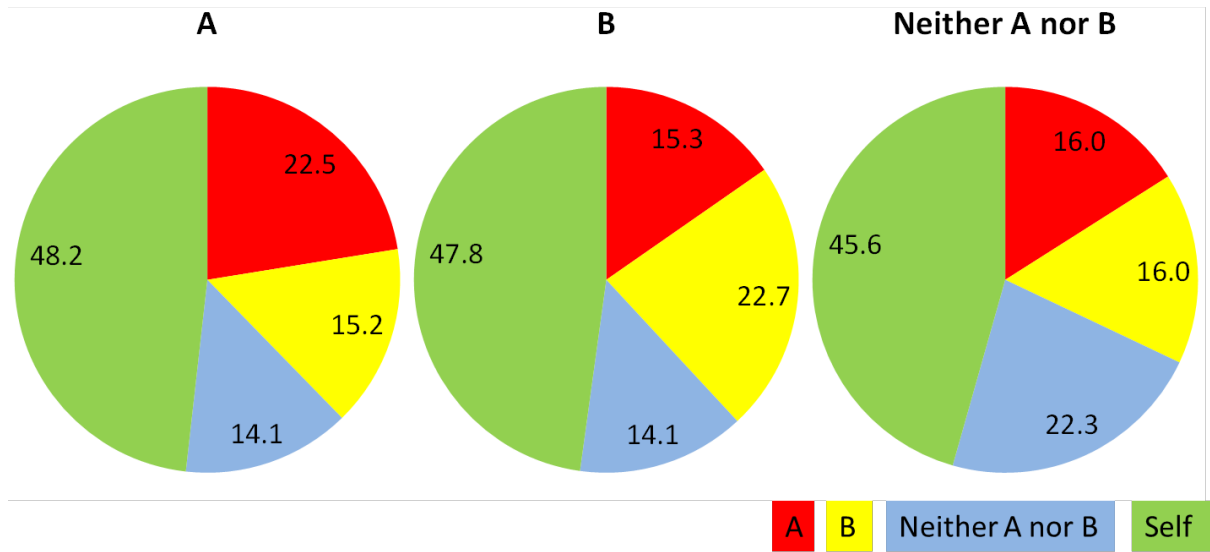


Figure 4: Allocation Decisions by Artificial Groups (% of total pie)

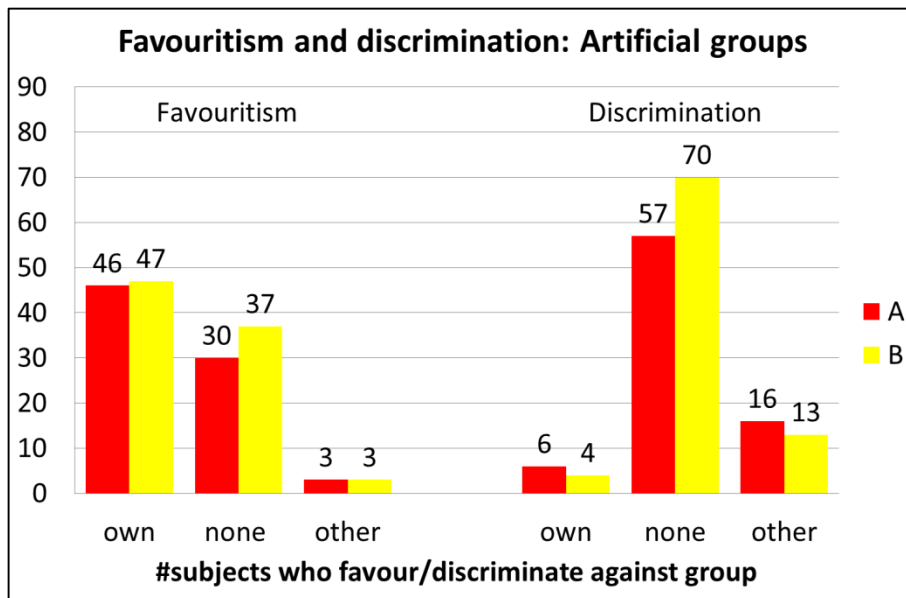


Figure 5: *In-group favouritism* - Number of subjects allocating more (“own”), equal (“none”), and less (“other”) to the in-group compared to the neutrals; & *Out-group discrimination* – Number of subjects allocating less (“other”), equal (“none”), more (“own”) to the out-group

Figure 5 shows favouritism and discrimination among those subjects labelled A or B in the artificial groups treatment (using “individuals who do not belong to group A or B” as a reference group), in the same fashion as figures 2 and 3. On the left panel, allocations favouring the own group (46 out of 79 subjects or 58% for the As; and 47 out of 87 subjects or 54% for the Bs) are much more frequent than those favouring the

artificial out-group (only 3 subjects in both groups). The difference is strongly significant at $p < 0.0001$ using the one-sided binomial test. On the right panel, an interesting result emerged. The majority treated the out-group and the unattached individuals the same (57 out of 79 or 72% for the As; and 70 out of 87 or 80% for the Bs) while only a few subjects discriminated against the out-group (allocating less to the other group than the reference group). It seems that in-group favouritism can be triggered much more easily even just by labelling subjects with different letters, but out-group discrimination requires much more than that - in our case, a ‘conflict’ or ‘rivalry’ between groups. Our result supports the ‘Realistic Conflict Theory’ (LeVine and Campbell (1972), Sherif and Sherif (1953)), which argues that discrimination against an out-group is more likely to be triggered when there are situationally primed threats. These could be physical danger (Shaller et al. (2003)), threats from crime (Navarrete et al. (2004)), or competition for resources or power (Brewer (1999), Hewstone et al. (2002)).

3.3. Allocation Patterns

Allocators in our experiment are considerably selfish, perhaps unsurprisingly so. On average 43.8% of the pie in the natural group treatment and 47.2% in the artificial treatment are allocated to Self. Allocations to ‘Self’ seem to be slightly higher in the artificial treatment. Figure 1 suggests that within the natural groups, the Yellows and neutrals look slightly more selfish than the Reds. However, none of the pairwise comparisons are statistically significant.

Table 1. The five most popular allocations across both treatments (N= 466)

Red/A	Yellow/B	Neutrals/ Neither A nor B	Self	Frequency
0	0	0	100	35 (7.5%)
25	25	25	25	31 (6.7%)
30	30	30	10	20 (4.3%)
20	20	20	40	18 (3.9%)
10	10	10	70	15 (3.2%)

Table 1 shows the five allocations chosen *most frequently*, across both treatments and all groups. Indeed, the modal allocation is the one that allocates the whole pie to Self, which has been chosen by 35 subjects.⁶ The second most frequent allocation divides the pie into four equal shares and allocates the same to each of the four “groups”. This could be fairness-oriented subjects with a strong self-serving bias. It seems fair if each group receives the same, and convenient to overlook that the “group” of Self is only one person, while each of the other groups consists of about 20 people.^{7 8}

⁶ All top-five allocations are non-favouring and non-discriminating. This is remarkable given the majority of subjects exhibited favouritism, discrimination, or both. However, symmetric allocations are more prominent, and it is technically more likely that the same symmetric allocation is chosen by several people. So not too much should be interpreted into this result.

⁷ Note that the allocator would always receive the share of the allocation to his or her group. Hence, to implement an equal distribution he or she would not need to allocate anything to Self and this was clearly explained to the subjects.

⁸ When individuals are faced with competing norms of fairness, they often tend to select the one that is advantageous to themselves, not necessarily the one that would be dominant in society. Such self-serving biases are well-established in behavioural research (Loewenstein et al (1993), Babcock et al. (1995)).

3.4. Other determinants of behaviour

At the end of the experiment, we asked subjects to complete a post-experimental questionnaire which asked questions about their socioeconomic background; how close they felt towards other individuals measured by a psychometric test called ‘Inclusion of Other in the Self Scale (IOS scale)’ (Aron et al. (1992), Cialdini et al. (1997)); their beliefs about the behaviours of other individuals within the same session (not incentivised)⁹; group-related attitudes; trust-related attitudes; and a number of political and corruption perceptions questions. We examine the extent to which these variables explain the subjects’ behaviours observed in the experiment which also tests the internal validity of our design.

Our main results are shown in Table 2. Whilst we ran regressions for all variables included in the questionnaire, we only report the key variables in the table which include socioeconomic backgrounds; the IOS scales; the beliefs; and whether subjects consider group membership as important and provide discussion of other results. Models (1) to (5) report the results for in-group favouritism behaviour and models (6) to (7) for out-group discrimination behaviour. Recall that in-group favouritism is operationally defined as the difference between the amount given to the in-group and that given to the neutral individuals, whilst out-group discrimination is the difference between the amount given to the neutral individuals and the out-group.

In-group favouritism (ingroup – neutrals)

None of the socio-economics background variables is significant, except for studying economics as a major subject in model 5 when the importance of group membership is also controlled for. No group identity effect is observed as the coefficient of the Yellow Shirts dummy is not significant. Closeness towards other in-group members positively affects the propensity to allocate more to the in-group than the neutral group and the results are robust across all, except for model (5) when the importance of group membership enters the regression. This variable has a large and positive coefficient and is significant at 1% level which confirms our intuition that subjects who consider being part of a group as very important are more likely to treat the in-group more favourably compared to the status quo (neutral individuals). Beliefs about the amounts the other in-group members allocate to the in-group, as well as the amount that the rival group members allocate to their own group, also affect the amount each subject allocates to their own group. The larger a share they think the other in-group members would allocate to the in-group, and the larger a share they think the rival group members would also allocate to their own group, they reciprocate (positively in the former case, and negatively in the latter case) by favouring their own group as well. Finally, the closer they felt towards the neutral group, the less likely that they would favour their own group. None of the other trust attitudes, group attitudes or political views variables are significant. We also run separate regressions for the Yellow Shirts and the Red Shirts with the same controls to see if we would find any subject pool-specific effects that have not been picked up by the dummy variable (see Appendix 3).

Out-group discrimination (outgroup – neutrals)

For socioeconomic variables, we observe a gender effect in model (1) in which female subjects are less likely to discriminate, although the effect disappears once other controls enter the model. Unlike in-group favouritism, the closeness towards the in-group members does *not* significantly affect discrimination. Instead, it is the closeness towards the *rival* group and the neutral individuals which influence their discriminatory behaviour. The closer the subjects feel towards the rival group, the less likely they would discriminate, whilst the closeness towards neutral individuals have the opposite effect. In addition, subjects who consider group membership as very important are less likely to discriminate, which is contrary to what we observed in the in-group favouritism model. None of the other controls are significant. Therefore, our

⁹ We did not incentivise beliefs as we did not want this question to affect the subjects’ allocation decision and it was not part of our main research questions. A number of other studies have already investigated the role of beliefs in driving in-group favouritism/out-group discrimination (Yamagishi and Mifune (2008), G uth et al. (2009), Ockenfels and Werner (2014), Grimm et al. (2017)), although we still included it in our regression as a control.

results suggest that the motivations for in-group favouritism and out-group discrimination are different. It appears that in-group favouritism is more related to the closeness and the important of group membership, whilst out-group discrimination is driven by the distance between Self and the out-group members. From our results, people who value group membership would favour their group, but not discriminate against the out-group. Hence, the two behaviours are not two sides of the same coin. We run a similar exercise with discrimination behaviour to check for subject pool-specific effects between the Yellow and the Red Shirts (Appendix 4).

Table 2. Regression results for In-group Favouritism and Out-group Discrimination

Dependent variable	In-group favouritism					Out-group discrimination				
	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]	Model [8]	Model [9]	Model [10]
Yellow Shirts	0.81 [4.42]	1.05 [4.13]	3.10 [4.10]	1.82 [4.13]	0.21 [3.89]	-0.38 [2.61]	-0.14 [2.32]	-0.24 [2.35]	-0.57 [2.40]	0.11 [2.29]
age	0.02 [1.30]	-0.77 [1.23]	-0.85 [1.20]	-0.93 [1.20]	-1.74 [1.19]	-0.25 [0.77]	0.41 [0.69]	0.38 [0.69]	0.38 [0.70]	0.70 [0.70]
gender	1.20 [4.34]	0.59 [4.14]	1.42 [4.10]	0.39 [4.02]	2.17 [3.91]	-6.43** [2.57]	-3.62 [2.32]	-3.84 [2.36]	-3.68 [2.33]	-4.08 [2.30]
grow	-0.23 [1.00]	-0.48 [0.95]	-0.41 [0.95]	-0.59 [0.92]	0.01 [0.90]	-1.11 [0.59]	-0.73 [0.53]	-0.77 [0.54]	-0.73 [0.54]	-0.87 [0.53]
econ	5.81 [5.31]	7.78 [4.98]	6.43 [4.97]	8.04 [4.95]	10.65** [4.73]	-3.48 [3.14]	-4.79 [2.79]	-4.98 [2.86]	-5.29 [2.87]	-5.62 [2.78]
fam_income	-2.01 [2.29]	-0.82 [2.15]	-0.25 [2.11]	-0.39 [2.10]	0.16 [2.04]	0.80 [1.36]	0.36 [1.21]	0.18 [1.22]	0.43 [1.22]	0.07 [1.20]
religious	-0.09 [5.31]	-0.22 [4.96]	0.44 [4.90]	-2.52 [4.87]	-0.76 [4.66]	-0.04 [3.14]	-0.80 [2.76]	-0.58 [2.82]	-1.30 [2.81]	-0.65 [2.74]
Closeness towards own group (circle_own)		2.90** [1.32]	3.27** [1.31]	3.78*** [1.31]	1.60 [1.28]		0.39 [0.74]	0.27 [0.75]	0.50 [0.76]	0.77 [0.75]
Closeness towards the rival group (circle_other)		-0.23 [2.18]	0.20 [2.20]	1.12 [2.17]	-0.58 [2.06]		-5.43*** [1.22]	-4.87*** [1.27]	-5.24*** [1.26]	-5.33*** [1.21]
Closeness towards individuals with no group (circle_indv)		-6.11*** [1.38]	-6.75*** [1.38]	-6.68 [1.37]	-5.26*** [1.32]		4.25*** [0.77]	4.08*** [0.79]	4.29*** [0.79]	4.00*** [0.77]
Belief your group members giving to themselves			0.04 [0.12]					-0.05 [0.07]		
Belief your group members giving to own group			0.39*** [0.15]					-0.02 [0.08]		
Belief your group members giving to rival group			-0.17 [0.28]					-0.29* [0.16]		
Belief rival group members giving to themselves				0.01 [0.10]					-0.04 [0.06]	
Belief rival group members giving to their own group				0.35*** [0.12]					0.00 [0.07]	
Belief rival group members giving to your group				-0.17 [0.23]					-0.20 [0.13]	
Consider group membership as important					10.51*** [2.51]					-3.06** [1.48]
Number of obs	137.00	137.00	137.00	137.00	137.00	137.00	137.00	137.00	137.00	137.00
R-squared	0.02	0.17	0.23	0.24	0.27	0.09	0.31	0.33	0.32	0.33
Adj R-squared	0.03	0.11	0.15	0.16	0.21	0.04	0.26	0.26	0.25	0.27

Note: standard errors in parentheses; * significant at 10%, ** significant at 5%, *** significant at 1%

Selfish behaviour

Table 3 reports the results for selfish behaviour. On average students with economics major appear to be significantly more selfish than other students and the results are robust across almost all of the specifications. In addition, the amounts given to themselves also depend positively on the subjects' beliefs about what the other in-group members and the rival group members give to themselves (models 3 and 4). The more they believe the other in-group members and the rival group members give to themselves, the more they allocate to Self. Subjects who think that some groups are inferior than others and should stay in their place (models 8 and 9) are also significantly more selfish. On the contrary, those who felt closer towards individuals with no group affiliation (model 2) and more trusting (models 6 and 7) allocated significantly less amount to Self. Interestingly, the beliefs about the amounts given to the rival group by the in-group members and the beliefs about the amounts given to the in-group by the rival group members also have a negative effect on the

amounts given to Self. We test whether in-group favouritism and out-group discrimination affect the amounts allocated to Self or not, but the coefficients are not significantly different from zero.

Table 3. Regression results for Allocation to Self

Dependent variable	Giving to self (pooled data)											
	Independent variable	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]	Model [8]	Model [9]	Model [10]	Model [11]
Yellow Shirts	3.91	4.77	2.35	-3.74	4.82	5.20	3.99	4.24	3.98	4.23	5.23	
	[4.52]	[4.41]	[2.97]	[3.06]	[4.44]	[4.36]	[4.32]	[4.35]	[4.37]	[4.49]	[4.35]	
age	0.24	-0.08	-0.18	0.96	-0.03	-0.21	-0.07	0.49	0.49	-0.19	0.11	
	[1.33]	[1.31]	[0.87]	[0.89]	[1.35]	[1.29]	[1.28]	[1.32]	[1.33]	[1.33]	[1.30]	
gender	-6.07	-7.27	-3.09	-6.99	-7.36	-6.30	-7.92	-7.86	-7.37	-6.97	-7.04	
	[4.45]	[4.43]	[2.98]	[2.98]	[4.47]	[4.36]	[4.33]	[4.37]	[4.37]	[4.46]	[4.36]	
grow	-1.66	-1.63	-0.15	-1.38	-1.65	-1.07	-1.16	-1.94	-1.72	-1.60	-1.52	
	[1.03]	[1.01]	[0.69]	[0.68]	[1.03]	[1.04]	[1.06]	[1.01]	[1.00]	[1.02]	[1.00]	
econ	13.75***	14.32***	5.76	5.13	14.15***	14.18***	15.37***	11.5**	11.75**	14.43***	15.80***	
	[5.44]	[5.32]	[3.61]	[3.67]	[5.40]	[5.31]	[5.27]	[5.22]	[5.38]	[5.33]	[5.28]	
fam_income	0.29	1.18	0.85	-0.68	1.12	1.06	1.38	1.03	1.27	1.24	0.65	
	[2.34]	[2.30]	[1.54]	[1.55]	[2.32]	[2.26]	[2.24]	[2.26]	[2.27]	[2.30]	[2.27]	
religious	-9.29*	-8.65	-1.20	-8.18**	-8.62	-9.98*	-10.28**	-7.86	-8.28	-8.19	-10.07	
	[5.43]	[5.30]	[3.56]	[3.60]	[5.32]	[5.21]	[5.17]	[5.21]	[5.22]	[5.34]	[5.24]	
Closeness towards own group (<i>circle_own</i>)		-0.85	-0.87	-1.35	-0.78	-1.56	-0.49	-1.10	-0.48	-0.95	-0.57	
		[1.41]	[0.95]	[0.97]	[1.46]	[1.41]	[1.39]	[1.39]	[1.41]	[1.42]	[1.40]	
Closeness towards the rival group (<i>circle_other</i>)		0.01	-0.56	1.01	0.04	-0.45	-0.52	0.50	0.35	0.15	-0.41	
		[2.33]	[1.60]	[1.60]	[2.34]	[2.30]	[2.28]	[2.30]	[2.31]	[2.34]	[2.31]	
Closeness towards individuals with no group (<i>circle_indv</i>)		-4.25***	-2.13**	-1.88	-4.3***	-3.44**	-3.64**	-3.80**	-4.26**	-4.36***	-4.47***	
		[1.48]	[1.00]	[1.01]	[1.50]	[1.49]	[1.46]	[1.47]	[1.46]	[1.49]	[1.46]	
Belief your group members giving to themselves			0.73***									
			[0.86]									
Belief your group members giving to own group			-0.13									
			[0.11]									
Belief your group members giving to rival group			-0.44**									
			[0.20]									
Belief rival group members giving to themselves				0.67***								
				[0.08]								
Belief rival group members giving to their own group				-0.11								
				[0.09]								
Belief rival group members giving to your group				-0.46***								
				[0.17]								
Consider group membership as important					-0.61							
					[2.87]							
Generalised trust						-11.23***						
						[4.25]						
Exploit							-12.42***					
							[4.18]					
Inferior (<i>"Inferior groups should stay in their place"</i>)								4.24**				
								[1.81]				
Group unequal (<i>"Some groups of people are simply inferior to other groups"</i>)									4.16**			
									[2.17]			
Consider vote-buying as corruption										7.60		
										[10.36]		
Consider military/police officers being board members of private companies while still in the office as corruption											-9.69**	
											[4.24]	
Number of obs	137.00	137.00	137.00	137.00	137.00	136.00	136.00	137.00	137.00	137.00	137.00	
R-squared	0.12	0.19	0.65	0.64	0.19	0.23	0.24	0.22	0.21	0.19	0.22	
Adj R-squared	0.07	0.12	0.62	0.60	0.11	0.16	0.17	0.15	0.15	0.12	0.15	

Note: standard errors in parentheses; * significant at 10%, ** significant at 5%, *** significant at 1%

4. Discussion

This paper studies in-group favouritism and out-group discrimination using naturally occurring and politically conflicting groups. Our objective is to systematically disentangle in-group favouritism and out-group discrimination by designing a novel experiment which introduces a non-rival out-group as a reference point against which in-group favouritism and out-group discrimination can be measured.

Our results show clear evidence of in-group favouritism in both natural groups. A large number of the Red and Yellow subjects gave more to their own group than to the neutrals (non-rival out-group). We observe no statistically difference in this behaviour across groups. Both the Red and Yellow subjects also discriminated against the out-group by allocating significantly less to the group of the political op-opponent than to the

neutral individuals. The weaker effects observed in our artificial groups treatment confirm that the strong results in the natural groups treatment was not due to labelling alone. We did find some in-group favouritism – but no discrimination – in the artificial groups. The results provide support for the ‘Realistic Conflict Theory’ (LeVine and Campbell (1972), Sherif and Sherif (1953)) which argues that discrimination against an out-group is more likely to be triggered when there are situationally primed threats.

In conclusion, we have shown that, although related, the two behaviours are not simply two sides of the same coin. Closeness to the in-group, which can be triggered simply by labelling, seems to be the main driving force for in-group favouritism, whilst out-group discrimination is determined by social distance, conflict, and competition between groups. Of course, our findings are not the last word in the matter. Discriminatory behaviour may well be context-dependent. We derived our findings on the background of the Thai conflict. It is likely that they will also apply to societal divisions along other lines, like nationality, ethnicity, religion, class, geographical locations or loyalty to sports teams. Though beyond the scope of this paper, further research is needed to fully understand the nature of favouritism and discrimination.

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Appendix 1. Background: The Thai Red-Yellow divide at the time of the experiment

Thailand was established as a modern kingdom in 1932 when the country was transformed from absolute to constitutional monarchy. Since then Thailand's politics has been dominated by the military and elite royalists (Forsyth (2010)), who have benefited the most from Bangkok's rapid economic growth since the 1970s. Changes in government often came by military coups. The country has a long history of corruption which is deeply embedded in the Thai culture (Phongpaichit and Baker (2005)).

The key player who significantly changed the political playing field was Thaksin Shinawatra who became Prime Minister in 2001. Thaksin was not in the military and did not have any royal connection. He was born in the Northern part of Thailand to a lower-class family. He was a police officer before entering politics. Then he started his own telecommunication business where he built his fortune from securing procurement contracts to the government in the 1980s and 1990s (Phongpaichit and Baker (2004), Forsyth (2010)). Thaksin was one of the new generation of Thailand's business elite whose success did not depend on ties to the army or the royal family (Forsyth (2010)). The success of Thaksin and his Thai Rak Thai ('Thais Love Thais') party in the 2001 election sparked a sharp conflict with the old Bangkok elites. His populist programmes, which targeted the rural poor, won overwhelming support from the rural voters, but were perceived by the old elites as attempts to dilute their power. Thaksin was also criticised for his tendency to disregard the rule of law, particularly in his 'war on drugs' and brutal campaign against insurgents in the southern provinces. After winning a second term in 2005, he came under severe attack for corruption when he sold the shares of his telecoms company for \$1.9 billion, without paying any tax (Arnold (2006)). This event led to widespread calls for his impeachment.

During this time, Thailand saw the first movement of the 'People's Alliance for Democracy' (PAD) led by Sonthi Limthongkul, a businessman who, like Thaksin, made his fortune in telecommunications. Dressed in yellow shirts to signify their loyalty to the King (yellow represents the royal family), the PAD – also known as the 'Yellow Shirts' – organised high-profile anti-Thaksin protests. They accused Thaksin and his government of corruption and being anti-monarchy and demanded his resignation. Thaksin was eventually forced out of power in September 2006 when the military seized power in a bloodless coup. However, Thaksin's new proxy party, 'The People Power Party (PPP)' regained power by winning the general election in December 2007. Between 2007 and 2008 Thailand saw increasing political turmoil. The yellow-shirt protests reached a climax in October 2008 when Bangkok's two airports were seized by the anti-government protesters. The PPP was eventually found guilty of vote-buying during the 2007 election and was dissolved, resulting in a new coalition government led by the Democrat party.

On 15 December 2008, Oxford-educated Abhisit Vejjajiva became the Prime Minister of a newly formed coalition government. This gave rise to a new anti-government movement who emerged dressing in red shirts and calling themselves the United Front for Democracy against Dictatorship (UDD). The 'Red Shirts' demanded Abhisit's resignation and the restoration of Thaksin's government. In March 2009, they invaded a meeting of the Association of Southeast Asian Nations and sites in Bangkok, causing embarrassment to the government and a strong police response. The Red Shirt protests escalated into a violent clash in 2010 resulting in 21 dead and many injured. In July 2011, another Thaksin proxy party won the general election and his sister became Prime Minister, which she remained to date.

Whilst some analysts claim that the conflict has stemmed from the class war between the rich and middle-class Bangkokians and the less fortunate population in the northern and north-eastern parts of Thailand. Some have claimed that the red-shirt demonstrators have been funded by pro-Thaksin parties who offered large payments cancellation of village debts if the new party were elected. Others have cited the multiple cleavages in Thai society, for instance between the old and the new elites; those from the north and northeast against those from Bangkok and the south; and people with close connection to the monarchy against those who no longer trust the institutions (Kurlantzick (2010)).

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Appendix 2:
Pre-Experimental Questionnaire

(Your answers will be kept confidential and is completely anonymous)

1. Age: _____
2. Gender: _____
3. Income (per month): _____
4. Parents' Income (per month): Please choose one of the following choices.
 - A. 5,000 Baht or less
 - B. Between 5,000 Baht and 20,000 Baht
 - C. Between 20,000 Baht and 100,000 Baht
 - D. More than 100,000 Baht
 - E. I don't know
5. Are you from (did you grow up in):
 - A. Bangkok
 - B. The Northern Region
 - C. The Northeast Region
 - D. The Western Region
 - E. The Southern Region
6. If you come from outside of Bangkok, how long have you lived in Bangkok? (months/years)

7. What is your religion?
 - A. Buddhism
 - B. Christianity
 - C. Islam
 - D. Judaism
 - E. Other religion
 - F. Atheist (no religion)
8. Do you consider yourself a religious person?
 - A. Yes
 - B. No
 - C. I don't know
9. Are you aware of the current global economic downturn?

- A. Yes (if your answer is 'yes', please go to question 8)
 - B. No (please go to question 9)
 - C. I don't know
10. Has the current global economic downturn affected you or your family?
- A. Yes
 - B. No
 - C. I don't know
11. Do you worry about the problem of climate change?
- A. Yes
 - B. No
 - C. I don't know
12. Do you think the current government is doing a good job?
- A. Yes
 - B. No
 - C. I don't know
13. In your opinion, do you think:
- A. The current government is doing a better job than the Thaksin's government
 - B. The current government is doing a worse job than the Thaksin's government
 - C. I don't support neither the current government nor the Thaksin's government
 - D. I don't know
14. In your opinion, do you think:
- A. It is good to express one's feelings about the government by protesting regardless of the cost and damage.
 - B. It is OK to protest as long as it is peaceful.
 - C. It is not a good idea to protest
 - D. I don't know
15. How do you think we could resolve the current division between groups in our country?

Thank you.

Appendix 3: In-group Favouritism (Split Sample: Yellow and Red Groups)

Dependent variable	Favouritism (own -neutral)													
	Yellow			Red										
Independent variable	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]
age	1.33 [1.64]	0.12 [1.51]	-0.33 [1.50]	-0.08 [1.52]	-0.51 [1.55]	0.11 [1.52]	0.05 [1.35]	-0.78 [2.24]	-1.09 [2.20]	-0.76 [2.20]	-0.67 [2.17]	-2.10 [1.94]	-1.16 [2.24]	-1.55 [2.22]
gender	-2.74 [4.93]	-0.25 [4.56]	0.30 [4.50]	-1.32 [4.59]	1.41 [4.64]	-0.17 [4.59]	-1.70 [4.06]	3.81 [8.17]	-0.01 [8.12]	0.76 [8.08]	0.72 [7.96]	0.19 [7.08]	-1.88 [8.34]	1.43 [8.16]
grow	-0.46 [1.19]	-0.59 [1.08]	-0.68 [1.08]	-0.81 [1.09]	-0.03 [1.13]	-0.62 [1.10]	-0.78 [0.97]	-1.01 [1.77]	-1.29 [1.74]	-0.72 [1.77]	-1.08 [1.71]	-1.46 [1.52]	-2.58 [1.90]	-1.15 [1.73]
econ	-1.34 [6.22]	4.23 [5.75]	3.91 [5.60]	3.14 [5.92]	6.98 [5.97]	4.42 [5.79]	5.84 [5.12]	12.76 [9.94]	12.80 [9.59]	10.46 [9.56]	15.43 [9.60]	13.53 [8.37]	8.88 [10.27]	13.26 [9.54]
fam_income	1.78 [2.78]	1.83 [1.64]	2.57 [2.56]	2.07 [2.54]	2.03 [2.51]	1.85 [2.55]	1.52 [2.25]	-4.82 [3.82]	-4.15 [3.71]	-3.79 [3.67]	-3.78 [3.65]	-2.61 [3.26]	-4.62 [3.70]	-3.92 [3.70]
religious	6.76 [6.34]	3.67 [5.75]	3.63 [5.84]	1.00 [5.89]	2.20 [5.77]	3.82 [5.79]	4.65 [5.11]	-7.01 [9.47]	-4.21 [9.18]	-0.58 [9.26]	-4.99 [9.14]	-2.99 [8.02]	-4.16 [9.20]	-1.50 [9.39]
Closeness towards own group (circle_own)		5.21*** [1.64]	5.56*** [1.61]	5.19*** [1.64]	4.8*** [1.64]	5.37*** [1.68]	6.05*** [1.47]		0.11** [2.27]	0.91 [2.29]	1.62 [2.35]	-1.94 [2.04]	0.89 [2.31]	-0.14 [2.27]
Closeness towards the rival group (circle_other)		-0.19 [2.19]	-0.03 [2.45]	1.50 [2.35]	-0.23 [2.16]	-0.18 [2.19]	-0.91 [1.94]		1.81 [4.82]	1.28 [4.77]	2.21 [4.73]	0.40 [4.22]	3.47 [4.91]	2.37 [4.82]
Closeness towards individuals with no group (circle_indv)		-5.03*** [1.60]	-5.24*** [1.64]	-5.55*** [1.64]	-4.60*** [1.61]	-5.16*** [1.63]	-4.67*** [1.42]		-6.30** [2.50]	-7.32** [2.53]	-6.90*** [2.47]	-5.41** [2.19]	-7.01** [2.66]	-6.74*** [2.51]
Belief your group members giving to themselves			0.05 [0.15]							0.10 [0.20]				
Belief your group members giving to own group			0.39** [0.18]							0.42* [0.25]				
Belief your group members giving to rival group			0.06 [0.39]							-0.25 [0.44]				
Belief rival group members giving to themselves				0.04 [0.13]							-0.04 [0.18]			
Belief rival group members giving to their own group				0.24 [0.16]							0.46** [0.20]			
Belief rival group members giving to your group				-0.36 [0.39]							0.05 [0.33]			
Consider group membership as important					5.05 [3.30]							16.69*** [3.94]		
Generalised trust						2.38 [4.52]							6.14 [7.58]	
Consider vote-buying as corruption							-72.27*** [17.08]							16.15 [12.78]
Number of obs	73.00	73.00	73.00	73.00	73.00	73.00	73.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00
R-squared	0.04	0.26	0.32	0.31	0.28	0.26	0.43	0.09	0.20	0.27	0.29	0.40	0.20	0.22
Adj R-squared	0.05	0.15	0.19	0.17	0.17	0.14	0.33	0.01	0.07	0.09	0.12	0.29	0.05	0.08

Note: standard errors in parentheses; * significant at 10%, ** significant at 5%, *** significant at 1%

Appendix 4: Out-group Discrimination (Split Sample: Yellow and Red Groups)

Dependent variable	Discrimination (other -neutral)							Red						
	Independent variable							Red						
Independent variable	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]	Model [1]	Model [2]	Model [3]	Model [4]	Model [5]	Model [6]	Model [7]
age	-1.26 [0.94]	-0.51 [0.81]	-0.55 [0.82]	-0.68 [0.82]	-0.26 [0.84]	-0.50 [0.81]	-0.51 [0.82]	0.47 [1.37]	1.12 [1.26]	0.87 [1.28]	1.08 [1.27]	1.36 [1.25]	0.99 [1.30]	1.14 [1.29]
gender	-6.63** [2.80]	-5.06** [2.45]	-5.17** [2.46]	-4.64** [2.47]	-5.70** [2.51]	-5.09** [2.46]	-5.09** [2.47]	-6.23 [5.0]	-1.58 [4.64]	-1.60 [4.71]	-0.84 [4.65]	-1.63 [4.58]	-1.41 [4.87]	-1.66 [4.73]
grow	-0.45 [0.68]	-0.28 [0.58]	-0.44 [0.59]	-0.30 [0.59]	-0.50 [0.61]	-0.27 [0.59]	-0.29 [0.59]	-2.22** [1.08]	-1.56 [1.00]	-1.42 [1.21]	-1.32 [1.00]	-1.51 [1.00]	-1.72 [1.12]	-1.56 [1.00]
econ	-0.96 [3.54]	-3.24 [3.09]	-2.23 [3.26]	-1.99 [3.19]	-4.31 [3.23]	-3.32 [3.11]	-3.21 [3.11]	-4.31 [6.08]	-4.71 [5.48]	-5.67 [5.57]	-7.07 [5.61]	-4.89 [5.41]	-6.00 [6.00]	-4.74 [5.53]
fam_income	-0.52 [1.58]	-0.95 [1.36]	-1.25 [1.40]	-0.83 [1.37]	-1.03 [1.36]	-0.96 [1.37]	-0.96 [1.37]	2.02 [2.33]	1.86 [2.12]	1.65 [2.14]	2.04 [2.13]	1.48 [2.11]	1.76 [2.16]	1.84 [2.14]
religious	1.80 [3.61]	1.96 [3.09]	0.96 [3.19]	2.60 [3.17]	2.52 [3.12]	1.90 [3.11]	1.97 [3.11]	-4.11 [5.79]	-5.40 [5.25]	-4.73 [5.39]	-5.37 [5.34]	-5.70 [5.18]	-5.67 [5.37]	-5.55 [5.45]
Closeness towards own group (circle_own)		0.15 [0.88]	0.16 [0.88]	0.26 [0.88]	0.30 [0.89]	0.08 [0.90]	0.16 [0.90]		0.95 [1.30]	0.81 [1.33]	1.57 [1.37]	1.45 [1.32]	1.04 [1.35]	0.96 [1.31]
Closeness towards the rival group (circle_other)		-4.20*** [1.17]	-3.23** [1.34]	-4.45*** [1.26]	-4.19*** [1.17]	-4.21*** [1.18]	-4.22*** [1.19]		-8.16*** [2.76]	-8.25*** [2.77]	-8.76*** [2.77]	-7.82*** [2.73]	-7.99*** [2.87]	-8.20 [2.80]
Closeness towards individuals with no group (circle_indv)		3.97*** [0.86]	3.57*** [0.90]	3.75*** [0.89]	3.8*** [0.87]	4.02*** [0.87]	3.98*** [0.87]		5.07*** [1.42]	5.21*** [1.48]	5.56*** [1.44]	4.86*** [1.42]	5.18*** [1.56]	5.10 [1.46]
Belief your group members giving to themselves			-0.10 [0.08]							-0.03 [0.11]				
Belief your group members giving to own group			0.02 [0.10]							-0.10 [0.14]				
Belief your group members giving to rival group			-0.27 [0.21]							-0.37 [0.26]				
Belief rival group members giving to themselves				-0.12 [0.07]							0.04 [0.10]			
Belief rival group members giving to their own group				-0.04 [0.08]							0.03 [0.12]			
Belief rival group members giving to your group				-0.04 [0.21]							-0.31 [0.20]			
Consider group membership as important					-1.95 [1.79]							-4.07 [2.55]		
Generalised trust						-0.98 [2.42]							-0.75 [4.43]	
Consider vote-buying as corruption							-1.28 [10.40]							-0.88 [7.42]
Number of obs	73.00	73.00	73.00	73.00	73.00	73.00	73.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00
R-squared	0.12	0.40	0.43	0.43	0.41	0.40	0.40	0.13	0.33	0.37	0.38	0.37	0.34	0.33
Adj R-squared	0.04	0.31	0.32	0.32	0.31	0.30	0.30	0.04	0.22	0.22	0.24	0.25	0.21	0.21

Note: standard errors in parentheses; * significant at 10%, ** significant at 5%, *** significant

Discussion

In-group favouritism: For most of the control variables, the results are the same but interestingly for the Yellow Shirts we also find that subjects who consider vote-buying as corruption (the question was “*If politicians distribute money to the public during election time, would you regard this incident as corruption/not corruption?*”) are less likely to favour their own group. The coefficient is very large (72.3) and significant at 1% level. This variable is also not significant in the Red Shirts analysis which, to some extent, appears to support the Yellow Shirts’ anti-corruption stance. However, other corruption perception variables, which present scenarios concerning bribery (public offices and police department), tips to speed up the work by government departments, and political-business connection, are not significant. For the Red Shirts, the variables which have positive and significant effect on in-group favouritism are the importance of group membership (coefficient is 16.7 and significant at 1% level) and the beliefs about the amount that the rival group give to their own group (negative reciprocity). Interestingly, both of which are not significant in the Yellow Shirts regression. Another different result is that the closeness towards the in-group is positive and significant across all specification for the Yellow Shirts but this variable is not significant for the Red Shirts. Only the closeness towards other neutral individuals which produce the same negative effect on in-group favouritism in both groups. It seems that for the Yellow Shirts in-group favouritism is driven by how close they feel towards the other in-group member, whilst for the Red Shirts the degree of closeness does not matter as much long as they belong to a group and if they think that the rival group favour their own group, they would retaliate by doing the same.

Out-group discrimination: We observe a strong gender effect among the Yellow Shirts. Female subjects are significantly less likely to discriminate and the results are robust across all specifications. Similar to the pooled data analysis, the closeness towards the rival group also has a negative and significant effect on discrimination. We find no gender effect for the Red Shirts models but in the baseline with only socioeconomic variables, we find that people who grew up outside of Bangkok are more likely to discriminate, but the effect disappears once other controls enter the model. The rest of the results are similar to the Yellow Shirts and no other controls is significant.

